



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,122	10/06/2000	Mitsuru Tokuyama	55288(904)	3208
21874	7590	04/06/2004	EXAMINER	
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			EDWARDS, PATRICK L	
			ART UNIT	PAPER NUMBER
			2621	(0)
DATE MAILED: 04/06/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/684,122	TOKUYAMA ET AL.
	Examiner	Art Unit
	Patrick L Edwards	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4, 6-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

1(a). The response received on March 11, 2004 has been placed in the file and was considered by the examiner. An action on the merits follows

### *Response to Arguments*

1. Applicant's arguments filed March 11, 2004 have been fully considered. A response to these arguments is provided below.

#### 35 U.S.C 112 Rejections

*Summary of Applicant's Argument:* The applicant argues that the amendments to claims 1, 5, 8, 16 and 18-20 have overcome the initial grounds for rejection (applicant's remarks page 9 lines 10-16).

*Examiner's Response:* The examiner agrees that the rejection with respect to claims 5, 16 and 18-20 have been overcome based on the amendments and claim cancellation. However, these amendments have not overcome the rejections with respect to claims 1 and 8. These rejections will be repeated below. Further grounds of rejection will also be provided below.

#### Prior Art Rejections

*Summary of Applicant's Arguments:* The applicant argues that the amendment to claim 1 overcomes the rejection over the Sacks reference (USPN 6,111,975) (applicant's remarks page 9 line 18 – page 11 line 12). The applicant additionally argues that the amendment to claim 1 puts the remaining claims (which are dependent on claim 1) in condition for allowability over the prior art (applicant's remarks page 11 line 14 – page 14 line 16).

*Examiner's Response:* The applicant's argument as to the reasons that the amended claim 1 is now allowable over the prior art have been considered and are persuasive. The prior art rejection with respect to the amended claim 1 has been withdrawn. It follows that the remaining claims (which are dependent on claim 1) are now allowable over the prior art as well.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 and 6-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites an image processing device, but fails to recite any structural elements of the device. If the claim is reciting an 'image processing device' then certain structural elements of the device (such as a 'means for' performing an operation) need to be recited as well. An example of a proper drafting of a device claim with respect to the claimed invention is provided immediately below.

an image processing device comprising:  
means for comparing a sum of a total density difference of two sub mask pixel groups in a main scanning direction and a total density difference of two sub mask pixel groups in a sub scanning direction with a threshold value, the sub mask pixel groups being provided in a main pixel group constituted by a plurality of pixels including a target pixel;  
means for determining whether said target pixel is an edge area or not based on said comparison.

Further referring to claim 1, the term "kinds" is unnecessary and adds confusion to the claim. It appears as if the claim would make more sense if the phrase 'kinds of' were omitted throughout the claim.

Further referring to claim 1, the phrase "upon area determination of said target pixel in an inputted image data" is unintelligible as recited in the context of the claim. This phrase does not make sense in its current context and appears to be redundant and unnecessary.

Further referring to claim 1, the term 'pixel groups' from line 5 of the claim does not have antecedent basis as currently written. It appears that the phrase should be changed to read 'sub mask pixel groups'.

Art Unit: 2621

Referring to claim 2, this claim is redundant and does not further limit the subject matter of the claim that it depends on.

Referring to claims 3 and 4, the term “sub pixel groups” lacks antecedent basis. It appears that this should be changed to recited “sub mask pixel groups”.

Referring to claim 6, the claim is dependent on a cancelled claim and is thereby indefinite. Additionally, the term “complication degree” lacks antecedent basis. Additionally, the claim recites two different ways of computing a single complication degree (i.e. in the main scanning direction and sub scanning direction). However, the claim only recites a single complication degree. Consequently, this aspect of the claim is indefinite. It appears that this problem could be fixed by reciting the computation of a ‘main scanning complication degree’ and a ‘sub scanning complication degree’.

Claims 7, 8 and 9 are indefinite because they are dependent on claim 6, which is dependent on a cancelled claim.

Referring to claims 7, 8 14, 15, 16 the value ‘S’ lacks antecedent basis.

Referring to claim 8, the metes and bounds of the term “dot mesh area” are unclear. This term is not well known in the art and requires a clear definition.

Referring to claim 14, the phrase ‘upon area determination’ does not make sense in the context of the claim. It appears that this claim could possibly read ‘wherein when performing area determination’, and it would be clearer.

#### *Allowable Subject Matter*

4. Claims 1-4 and 6-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Art Unit: 2621

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (703) 305-6301. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick Lynn Edwards

Art Unit 2621

ple



LEO BOUDREAU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600